REMARKS

Claims 1 – 25 are presently pending. In the above-identified Office Action, the Examiner objected to the Drawings and Abstract and rejected Claims 1 – 3 and 6 under 35 U.S.C. § 102(b) as being anticipated by Wood ('419). Claims 4, 5, 7 – 11, 14 – 21, 24 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wood. Claims 12, 13, 22 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wood in view of Zhenduo *et al.* ('145) hereinafter 'Zhenduo'.

By this Paper, Applicants have addressed the objections to the Abstract and Drawings. For the reasons set forth more fully below, the subject application is deemed to properly present claims patentable over the prior art. Reconsideration, allowance and passage to issue are respectfully requested.

The present invention addresses the need in the art for an improved system or method for stabilizing the temperature of detector arrays which offers greater flexibility and more accuracy, and requires less space and power than prior art methods.

The need in the art is addressed by the system and method for stabilizing the temperature of a detector array of the present invention. The novel invention includes one or more video reference pixels adapted to output a reference signal that is responsive to the temperature of the detector array and a mechanism for adjusting the temperature of the detector array based on the reference signal.

The invention is set forth in Claims of varying scope of which Claim 1 is illustrative. Claim 1 recites:

> 1. A system for stabilizing the temperature of a detector array comprising:
>
> one or more video reference pixels adapted to output a reference signal which is responsive to the temperature of said detector array and
>
> **means for adjusting the temperature of said detector array based on said reference signal.** (Emphasis added.)

None of the references, taken alone or in combination, teach, disclose or suggest the invention as presently claimed. That is, none of the references, taken alone or in combination, teach, disclose or suggest a system for stabilizing the temperature of a detector array using reference pixels to output a temperature based reference signal and means for **adjusting the temperature of the detector array** based on the reference signal.

In the above-identified Office Action, the Examiner rejected the claims with reliance primarily on Wood. Wood purports to teach a camera, an infrared focal plane array package, and a method and apparatus for generating video signals from a passive focal plane array of elements on a semiconductor substrate. The Examiner suggests that in Fig. 1, and col. 4, lines 37 – 48, Wood teaches a means 20 for adjusting the temperature of a detector array based on a reference signal. However, this assertion is error. The cited passage reads as follows:

> "Also, the inventors have had some success using temperature sensors fabricated on the focal plane array chips. These sensors are periodically polled by the focal plane readout electronics in the same way as the microbolometers, and the temperature data is sent to the image processor in the same way as the microbolometer signals. The inventors have had some success in using the image processor to use these temperature signals to **improve the image quality by correcting for small temperature drifts in the cameras**. These could be microbolometers which are intentionally made unresponsive to infrared radiation." (Emphasis added.)

The cited passage provides no such teaching suggested by the Examiner. Indeed, no such teaching is provided anywhere in the reference. On the contrary, as highlighted above, the cited passage appears to teach the use of signals from reference pixels to improve image quality by correcting for small temperature drifts in the camera.

This differs from the claimed invention, which **adjusts the temperature of the detector array**, not the **image output by the camera** as taught by Wood. Indeed, Wood does not provide any teaching with respect to the use of reference signals from a detector array to adjust the temperature of the array *per se*. Hence, the rejections of the Claims based exclusively on Wood should be withdrawn.

Zhenduo purports to teach a hybrid cascade model-based predictive control system. Zhenduo was cited as teaching a model based predictive control algorithm for temperature stabilization. However, Zhenduo does not provide a teaching to

overcome the fundamental shortcoming of Wood. That is, Zhenduo, taken alone or in combination, also fails to teach, disclose or suggest a method and apparatus for generating video signals from a passive focal plane array of elements on a semiconductor substrate. Hence, the rejections based on a combination of the teachings of Wood and Zhenduo should be withdrawn as well.

Reconsideration, allowance and passage to issue are respectfully requested.

Respectfully submitted,
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IN THE DRAWINGS:

In Fig. 1, the drawing label PRIOR ART has been added as shown on the replacement sheet enclosed herewith.